The invention relates to a heat-embossed, fastening non-woven fabric comprising, as at least one component, core-sheath or side-by-side heat-fusing composite staple fibers having a low-melting polymer component on a fiber surface, wherein a front surface of the non-woven fabric comprises a non-embossed portion and an embossed portion, the non-embossed portion being a large number of regularly or irregularly dispersed convex island regions upwardly projecting from the front surface of the non-woven fabric, the embossed portion being a sea region surrounding each island region, and at least one end of the composite staple fibers in the non-embossed portion that constitute the convex island regions being press- and heat-anchored at the embossed portion that constitute the sea region.

It is to be pointed out that "regularly or irregularly" are adverbs modifying and defining the objective "dispersed"; they do not modify the noun "convex island regions". In other words, the convex island regions are regularly or irregularly dispersed throughout the surface of the non-woven fabric. No indefiniteness thus is seen to reside therein.

With regard to the Japanese Abstract, clearly no anticipation, within the meaning of 35 U.S.C. § 102, nor obviousness, within the meaning of 35 U.S.C. § 103 even if the rejection should be considered as having been so made, is present. Thus, the claimed fastening non-woven fabric, as defined by the claims, is a single-layered structure. Such manifestly is not the case in the Japanese abstract wherein its surface fastener is a two-layered structure comprising a non-shrinking layer and a heat-shrunk layer. These two layers are partially bonded to each other by heat fusion at limited points. Basically, different fasteners thus are involved. The fact that the claimed fastener is a single-layer structure, it is thus free from the drawback of separation of two layers during use, as in the Japanese abstract, thereby improving serviceability. The heat-fused area in the Japanese abstract being only 10-50% of the fabric surface causes unfavorable fuzzing upon repeated use to reduce the engaging force,

such being obviated by the single-layered structure of the claimed fastener. In the surface fastener of the Japanese abstract, the projected portions are made from the non-shrinking layer utilizing the shrinking of the shrinking layer. A two-layered structure thus is required and necessary in the fastener of the Japanese abstract. No incentive or motivation to prepare the fastener from a single-layer structure, as in the claimed invention, thus manifestly is present from the teaching of the Japanese abstract.

In Rasen et al, its matting structure is prepared by depositing melt-spun polymer filaments from a series of closely spaced spinning orifices onto a moving support such that the filaments from adjacent spinning orifices overlap and self-bond with each other at random points of intersection. Note, col. 5, lines 17-43. The filaments thus, quite evidently, are bonded to each other also in the regions corresponding to the island regions (non-embossed region, i.e., non-bonding region) of the claimed invention. This is not the case in the claimed fastener, wherein the staple fibers constituting the non-embossed portion (island region) are press- and heat-anchored only at the embossed portion (sea region) while remaining and are not bonded in the island region. Distinctly different fasteners thus clearly are involved.

It is also to be pointed out that bonding filaments in the island regions is detrimental to the fastening operation inasmuch as bonded filaments prevent penetration of a hook engaging element into a loop engaging element (island region). The intended use of the fastener of Rasen et al, as disclosed at column 2, line 14 et. seq., requires its fastener to have a relatively high mechanical strength so as to obtain a firmly bonded structure of filaments. This clearly teaches away from the claimed fabric structure wherein press- and heat-anchoring is only at the sea region, no bonding being in the island region.

With regard to Disselbeck et al references, the following is submitted. Preliminarily, as discussed above, "irregularly" in the claims modifies and defines how the convex island

regions are dispersed; it does not modify the definition of their shape which is convex. No such surface is manifestly disclosed by the Disselbeck et al references. Further, this reference also fails to teach a core-sheath or side-by-side heat fusing composite staple fibers, its core material being prepared by impregnating a fabric of fiber material with synthetic resin. Note column 1, line 45, column 2, line 5, Claim 1, last line, and Claim 2, lines 4-5. Manifestly the core material of Disselbeck et al '221 is structurally and significantly different from the claimed non-woven fabric.

Similarly, in Disselbeck et al '686, the filaments of the core material is also fuse-bonded in the region corresponding to the claimed island region not so bonded. The core material of this reference does not have the claimed non-embossed (non-heat treated) island region. Significantly and materially different structures thus clearly are involved. Note the arguments made above with regard to the rejection over Rasen et al also being applicable here.

Withdrawal of the rejection of the claims under 35 U.S.C. § 102 and § 112, second paragraph, thus is requested.

It is submitted that this application is now in condition for allowance and which is solicited.

Respectfully submitted,

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IN THE SPECIFICATION

Please amend page 1, lines 23-27 and page 3, lines 7-18 as in the attached marked-up copy to read as follows.

Page 1, please replace the paragraph at lines 23-27 as follows:

The application field of surface fasteners is expanding to include their application to disposable products such as disposable diapers in particular. In this application field, since the engaging surface area of the loop fastener member is large to [increase] decrease production costs, there is an increasing need for a loop fastener member that is inexpensive, good in soft touch, thin, and flexible.

Page 3, please replace the paragraph at lines 7-18 as follows:

In a second aspect of the present invention, there is provided a process of producing a fastening non-woven fabric, comprising heat-embossing a web composed of a sliver of core-sheath or side-by-side heat-fusing composite staple fibers thereby to cause a non-embossed portion to form a large number of regularly or irregularly dispersed convex island regions which are upwardly projected from a front surface of the web and allow an embossed portion to [from] form a sea region surrounding each of the island regions, wherein the dimensions of the non-embossed portion and the embossed portion are adjusted so as to make a maximum diameter of the non-embossed region dispersed as the island regions shorter than a sliver length, and wherein

at least one end of the composite staple fibers constituting the non-embossed island regions is heat-anchored at the embossed sea region.